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SOCIOMETRIC CHANGE AS A FUNCTION OF  
CLASSWIDE PEER TUTORING

by

Trina D. Spencer

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology

Approved:

UTAH STATE UNIVERSITY  
Logan, Utah

2001

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## ABSTRACT

### Sociometric Change as a Function of Classwide Peer Tutoring

by

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Utah State University, 2001

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Department: Psychology

Classwide peer tutoring (CWPT) procedures have been shown to substantially increase academic performance. Other positive outcomes, incidentally observed, include enhanced prosocial behaviors and increased appropriate interactions among peers. This study examined the direct effects of a CWPT program on peer relations and academic performance. A mixed first- and second-grade general education classroom participated in a CWPT spelling intervention with a comparable control classroom. The study consisted of three phases—Baseline (4 weeks), Intervention (6 weeks), and Follow-up (4 weeks). Dependent measures included sociometric peer rating scales and spelling test scores. Results were analyzed by determining mean change for each participant and each social status group for both experimental and control classrooms. The data indicate that CWPT positively influenced students' peer acceptance and improved spelling performance.

(63 pages)



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Trina D. Spencer

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## INTRODUCTION

A child can be considered socially competent, due to his/her ability "to initiate and maintain satisfying, reciprocal relationships with peers" (Katz & McClellan, 1997). Social competence is considered a superordinate of other social constructs such as appropriate social behavior, positive peer relations, and peer acceptance. These constructs are, of course, intricately related and the terms are often used interchangeably (Merrell & Gimpel, 1998). Regardless of their use, ample evidence exists indicating the importance of social competence for healthy cognitive and social development (e.g., Johnson, 1980; Parker & Asher, 1987). Positive peer relations are essential for socialization (Johnson, 1980) and short-term and long-term educational and vocational performance (Gresham, 1998). Positive peer relationships affect the quality of life (Haring, 1993) and general acceptance from society (Kramer, Piersel, & Glover, 1988). It is clear that a goal toward socially competent citizens is an important one.

Just as appropriate social behavior and peer acceptance are related to positive outcomes, it is also well documented that negative short-term and long-term outcomes are associated with a lack of social competence, sometimes defined by a child's sociometric status (Kupersmidt & Coie, 1990). For example, low-status children have been found to be more aggressive and withdrawn than most of their peers (Coie, Dodge, & Kupersmidt, 1990). Aggressive children are at heightened risk for delinquency and the development of antisocial behavior (Coie, Lochman, Terry, & Hyman, 1992; Kupersmidt, Burchinal, & Patterson, 1995). This is of particular concern because aggression toward peers reciprocates into isolation from peers. Socially withdrawn children have been found to be

more submissive and often become targets of aggression. These children report more depression (Rubin, 1985) and lower self-esteem (Alsaker, 1989). Rejected children are at greater risk for dropping out of school, criminal behavior, learning failures and psychopathology (Parker & Asher, 1987).

The emotional effects of peer rejection have been repeatedly documented in the literature, as well. Children who lack social support from peers are more vulnerable to life stressors and show greater maladjustment later in life (Parker & Asher, 1987). Parker and Asher's review and analysis of the peer relations literature indicates support for the premise that children with poor peer adjustment are at risk for later life difficulties.

The development of social competence is influenced by many factors. Among them are primary caregivers within the family, the community, and the social system of a school (Katz & McClellan, 1997). Parents are children's first social teachers and throughout childhood they provide examples of social interactions. The community, as a larger unit, establishes the standards of social competence. The school environment, however, may play the most important role in the development of social competence, as it contains peers (Parker & Asher, 1987; Patterson, Reid, & Dishion, 1992). Within the social system of schools, teachers serve as role models and facilitate appropriate peer interactions, while school rules function as social guidelines. But the interaction among peers is the most crucial element in the development of social competence (Parker & Asher; Patterson et al.). Within a social group at school, children can practice and improve their skills. The critical importance of appropriate social behavior and positive peer relations has been increasingly recognized in public education. Moreover, schools

and school officials have received pressure from parents and society, in general, to train and produce socially competent young people. As a result, educational research has addressed this issue by investigating interventions that target social competence.

Because evidence indicates that the public school ecology is partly responsible for the development and maintenance of social behavior (Patterson et al., 1992), it is reasonable to expect that social instruction be included in the education of our country's young people. Social skills interventions are one of the most popular school-based social interventions. Research on social skills training programs has produced many positive outcomes. For example, social skills training programs have significantly increased children's pro social behavior (e.g., Ladd, 1981), improved peer acceptance (Gresham & Nagle, 1984), and decreased aggressive behavior (Zahavi & Asher, 1978). Unfortunately, many social skills training programs never reach the children who could benefit (Schloss, Schloss, Wood, & Kiehl, 1986), nor does training occur in the natural environment that supplies the opportunity for interaction and practice. If students receive some type of formal social skills instruction, often it occurs too late for the change to be considered meaningful. Based on the documented limitations of social skills instruction, alternative social interventions or prevention strategies need to be investigated to supplement the training of traditional social skills programs.

## REVIEW OF RELATED LITERATURE

### Sociometry

Sociometry, in general, is a network of measurement tools used to assess social constructs. Many researchers have used terms such as “social competence” (Gresham, 1981; Walker, Irvin, Noell, & Singer, 1992), “social status” (Coie & Dodge, 1983), and “sociometric status” (Asher & Dodge, 1986; Ollendick, Weist, Bordon, & Greene, 1992) to refer to the overall social construct being measured. It is believed that there is not only one social construct measured by various sociometric techniques; rather each form of measurement assesses a different dimension of social competence (Gresham). A sociometric nomination procedure involves each student listing three students with whom they like to play and three with whom they do not like to play. This type of sociometric method yields a “popularity” score (Merrell, 1991). In a peer-rating procedure students are given a roster of their classmates and asked to rate each child according to how much they like to play with and how much they like to work with each individual, with 1 being “don’t like to” and 5 being “like to a lot” (Terry & Coie, 1991). An average of all the ratings is calculated to produce a “peer acceptance” score (Merrell). Additionally, Terry and Coie suggested that although sociometric work and play measures have many similarities, they likely reflected two separate dimensions of social competence. Other dimensions of social competence such as social skills and number of positive social interactions are typically measured through teacher- and/or parent-rating scales or behavioral observations (Merrell).

Although sociometric measures have been used in a variety of settings and for many decades, they are not without controversy. Techniques that require students to single out peers whom they may have negative feelings towards are often considered unethical. Educators and parents worry that a child may be ostracized as a result of participation in such activities. The potential adverse side effects consist of increased isolation or rejection (Merrell, 1991).

Subsequently, some researchers have dedicated investigations to this concern. For example, Iverson, Barton, and Iverson (1997) conducted a study in which they interviewed students about their reactions to the peer nomination procedure. The results indicated that 6 students ( $N = 119$ ) were talked about but without their knowledge. On the other hand, 20 students reported receiving a compliment regarding their positive nomination. The authors of this study determined that students participating in sociometric nomination procedures are at no greater harm than what they encounter in daily life (Iverson et al.). Although this area has not received extensive coverage, several researchers have found comparable results and conclude that participation in nomination procedures contain little, if any, harm (Bell-Dolan, Foster, & Sikora, 1989; Hayvren & Hymel, 1984; Merrell, 1991).

Though research has been unable to substantiate any negative consequences of participating in peer nomination tasks, several educators and researchers prefer the use of alternative methods to circumvent potential harm. One of the most popular alternatives is the peer rating procedure (Asher & Dodge, 1986). Peer rating procedures have several advantages over nomination procedures. For example, peer rating scales (a) are more



sensitive to subtle change, (b) provide information regarding positive and negative social status without the use of a negative question (Merrell, 1991), (c) provide an index of likability from all the group members, (d) decrease the likelihood that someone will simply be forgotten (Frederickson & Furnham, 1998), and (e) tend to be more stable because they yield average scores (Asher, Singleton, Tinsley, & Hymel, 1979).

### Social Skills Training

Among the evidence supporting the necessity of healthy peer relations, there is a strong rationale to provide social skills training programs to increase peer acceptance, to aid unpopular children, and to facilitate adequate social integration among peers (Johnson, 1980). Developers of social skills training programs often conceptualize social competence differently and not surprisingly utilize a variety of techniques to teach them (Schloss et al., 1986). For example, social skills interventions may address specific behaviors by using social problem-solving, anger coping, coaching, or contingent reinforcement (MacFadyen-Ketchum & Dodge, 1998). A popular social skills program, as described in The Tough Kid Social Skills Book, targets a variety of behaviors such as starting a conversation, playing cooperatively, using self-control, and dealing with teasing (Sheridan, 1995). Many programs are intended for school use and some for use within a clinic setting. The training can be set in various-sized groups--either individual, small group, classwide, or schoolwide. Additionally, some programs provide scripts for the group leader while others simply identify the skills to be taught (Merrell & Gimpel, 1998). Merrell and Gimpel outlined several well-known social skills training programs and

suggested that one is not superior to the other. Rather, a program may be better suited for specific populations or a leader may enjoy a particular style of delivery over another. In another review of social skills training programs, Gresham (1998) suggested that the most effective programs include combinations of modeling, coaching, and reinforcement procedures (Gresham).

Research on social skills training programs has produced many positive outcomes. Social skills training programs have significantly increased the frequency of children's pro social behavior relative to control groups (e.g., Ladd, 1981). Isolated third-grade students were taught to communicate and participate socially with their peers. Social skills gains and improved peer acceptance scores were indicated (Gresham & Nagle, 1984). Preschoolers were taught in brief interviews with their teachers about consequences of social behavior. Subsequently they were observed to engage in significantly less aggressive behavior and were "liked" better by their peers (Zahavi & Asher, 1978).

#### Limitations of Social Skills Training Programs

Although strong evidence exists for the success of social skills training procedures, several limitations are present (Schloss et al., 1986). Interventions that target behavioral deficits consistently demonstrate behavior change during intervention. However, the behavior change rarely reaches normative levels and may not persist once the intervention is withdrawn (Ladd & Mize, 1983). Similarly, Kazdin (1995) has pointed out that although social-cognitive approaches to improving social behavior generalize more readily

than behavioral interventions, most treated children remain outside the normal range of social functioning. Often social skills interventions do not address the specific behavioral deficits the targeted children experience (Strayhorn, Strain, & Walker, 1993). In general, the greatest weakness of social skills training programs is the absence of durable gains across situations and settings over time (Gresham, 1998; Mathur & Rutherford, 1991). Moreover, researchers have suggested that the specific skills necessary for successful social relationship have not been adequately defined or validated (Hops & Greenwood, 1988), and an absence of a strong conceptual base exists (Schloss et al., 1986).

Traditionally, social skills interventions have focused on specific social behaviors to be trained, although many investigate peer acceptance as well. It is important that research addresses skill acquisition and the impact of newly learned skills on their social status (MacFayden-Ketchum & Dodge, 1998). Although children may have new skills, it does not guarantee that the skills will be put to use in the natural setting nor does it ensure the children will be better liked. The goal of social skills interventions is improved peer relations not just skill acquisition. Regardless of the statistical significance found in many social skill interventions, the social and practical significance is relatively small (Kazdin, 1995; Schloss et al., 1986). One way to determine the social significance of such interventions, as suggested by several researchers, is to examine changes in peer social status, therefore linking skill changes with peer acceptance (MacFayden-Ketchum & Dodge; Schloss et al.). Moreover, Sabornie (1991) suggested that a sociometric

measure of students' social status is imperative in order to judge meaningful social outcomes.

### Peer-Mediated Interventions

Peer-mediated interventions are presented as alternatives or additions to traditional social skills interventions. Peer-mediated interventions use interactions between students to influence their social behavior while working cooperatively on an academic assignment (Mathur & Rutherford, 1991). Subsumed under peer-mediated interventions are cooperative learning approaches and peer tutoring. Cooperative learning strategies include the use of small student groups that are interdependent for the completion of an academic task (Johnson, Johnson, Warring, & Maruyama, 1986). Several forms of cooperative learning strategies have been developed and investigated. Research on cooperative learning strategies yield variable results based on the specific methods used. Slavin (1990) suggested that two crucial elements must be present for cooperative learning to be effective. First, groups must work together to learn, and secondly, each student must be individually accountable. Some examples of popular cooperative learning strategies include Student Teams–Achievement Divisions (STAD), Teams-Games-Tournament, Team Accelerated Instruction–Mathematics (TAI), and Cooperative Integrated Reading and Composition (Slavin).

In peer tutoring strategies, peers serve as instructional agents. Two students work together to learn the material and are individually accountable. There are several ways to arrange tutoring partners. Some of them include cross-age (Cochran, Feng, Carledge, &

Hamilton, 1993), reverse-role (Custer & Osguthorpe, 1983), and reciprocal role arrangements (Delquadri, Greenwood, Stretton, & Hall, 1983). Cross-age tutoring involves older students tutoring younger students, while reverse-role tutoring includes older students with disabilities tutoring younger typical students. One of the easiest ways to pair students is in a reciprocal role arrangement in which students who are the tutees also have the opportunity to tutor others (Delquadri et al.).

Teacher perceptions of academic behavior and peer perceptions of academic behavior have been found to be closely related to social status (Roberts & Zubrick, 1992). Parker and Asher's review (1987) also reveals an association between academic competence and social status. In order to target both academic and social components, Strayhorn et al. (1993) recommended using academic interventions such as tutoring and cooperative learning to improve social skills. Furthermore, it was reported that social outcomes can be better achieved through systematic daily instruction, rather than through separate noninclusive activities (Sabornie, 1991). This seems possible because to date, there are studies that have documented the effectiveness of peer-mediated academic instructional procedures to enhance social relations. Peer-mediated instruction has been effective in increasing the social interactions (Haring & Breen, 1992) and social acceptance of students (Coie & Krehbiel, 1984; Maheady & Sainato, 1985), with some evidence of generalization and maintenance (Mathur & Rutherford, 1991).

Coie and Krehbiel (1984) compared the effects of academic tutoring and social skills training on socially rejected fourth graders. In this study students were randomly assigned to four conditions: academic skills training (AS), social skills training (SS),

combination (AS and SS), and control. The tutors were undergraduate students who were trained in academic assessment and remedial tutoring techniques. Academic and sociometric scores were used as pre- and postintervention measures. Results indicated that children in the AS condition showed significant improvement in reading and math. In addition to these academic improvements, the children in the AS condition generated the highest sociometric scores. Academic skills training resulted in statistically significant increases in standardized “liked-most” scores, and the improvements were not significantly different from the combined AS and SS condition. The enhanced social status found in Coie and Krehbiel’s (1984) study is considered practically significant, in that it demonstrates meaning for those students who experienced the improvements.

In conjunction with academic success and improved social status, Coie and Krehbiel (1984) reported reductions in disruptive, off-task behavior within the AS condition. As they reported, these behavioral changes were likely instrumental in improving the students’ social status. They speculated that the reduced disruptive behavior, improved academic performance, and increased opportunity for reinforcement, which are characteristic of some academic interventions, combine to increase self-esteem and improve social status (Coie & Krehbiel). These results indicate that academic tutoring may be superior to social skills training for the purpose of upgrading students’ social competence or peer acceptance. One of the most feasible and acceptable peer-mediated interventions for teachers in inclusive classrooms is classwide peer tutoring (Sideridis, 1995), based on its success producing academic and social outcomes (Mortweet, 1997).

## Classwide Peer Tutoring

A plethora of studies have found that classwide peer tutoring (CWPT), a specific academic, peer-mediated program (Greenwood, Delquadri, & Carta, 1997), significantly increases academic performance (Delquadri et al., 1983; Greenwood et al., 1984).

Students have been remarkably more accurate on spelling tests when participating in CWPT, when compared with teacher-led instruction (Greenwood et al., 1984). In some cases, the entire class has made significant academic gains, often as much as two letter grades (e.g., Maheady, Harper, & Sacca, 1988). Greenwood et al. (1984) also demonstrated that during CWPT students engaged in more academic behaviors and fewer off-task behaviors than during conventional teacher-mediated instruction.

Aside from increased academic engagement, immediate feedback for students, and the reduction of off-task behaviors, many studies have suggested positive social outcomes of CWPT. There is evidence that CWPT increases peer social interactions between handicapped and nonhandicapped students (Johnson et al., 1986), improves relationships between minority group and majority group students (Sharan, 1980), and improves social adjustment for both tutor and tutee (Maheady & Sainato, 1985). Positive social interactions were observed during tutoring with low-achieving African American males with behavior disorders (Cochran et al, 1993). These effects are commonly referred to as secondary or side effects. Despite the success of CWPT as an inclusive classroom academic and possibly social intervention, too few researchers have investigated peer acceptance and social status as a major purpose of their study.

## Review of Literature That Included Academic

### Tutoring and Sociometric Status

The purpose of this review was to critique and consolidate previous research on academic tutoring and its relationship with improved social status among elementary school students. Considering the myriad published research surrounding academic tutoring and social outcomes, it was necessary to limit the review to the studies that share a common dependent measure. After extensive perusal of relevant studies, it was concluded that sociometric instruments have received less attention than other measurement methods to determine social outcomes of academically targeted interventions. However, peer ratings of social status have been recommended as invaluable for determining social significance of such interventions (Maheady & Sainato, 1985; Sabornie, 1991). Moreover, if peer acceptance increases, then other variables such as perception of self and social competence are also likely to improve (Patterson, Kupersmidt, & Griesler, 1990). Therefore, the five studies reviewed shared three critical components: (a) implemented any form of academic tutoring as the intervention or treatment, (b) included peer acceptance or social status as a dependent variable, and (c) utilized sociometric instruments to measure peer acceptance or social status.

In a 1970 study, Rust investigated the effects of tutoring on the tutor's academic achievement, and social status. Low achieving sixth graders tutored low achieving third graders. Thirty-six subjects were randomly assigned to three groups: the low tutor, the friends group, and the control group. The experimental task was for each low tutor to



teach math to a third-grade student. The friends group was to act as buddies with the third-grade students, and the control group never interacted with the younger students. Results indicated a statistically significant improvement in the achievement scores of the tutors from the low-tutor group and a positive trend in sociometric change (Rust). A strength of this study is the involvement of control groups.

Holcomb (1972) targeted elementary school students who were identified as socially rejected. College students served as tutorial-friends to third- and fourth-grade students who were identified as isolates. Methods involved a college student tutoring the elementary student for 1 hour a week for 7 weeks, while establishing a “warm and genuine friendship.” According to the author, results indicated improved social status among tutored students (Holcomb). However, nonstatistically significant data were reported and there was no statement concerning the practical significance of any improved social statuses. Unfortunately, the methodology was unclear and the treatment fidelity is questionable. Furthermore, the use of college students is not considered best practice for influencing social acceptance because they are not peers (Maheady & Sainato, 1985), and college students do not participate in the sociometric rating procedures.

Coie and Krehbiel’s (1984) study involving academic tutoring and its impact on students’ social status was described in detail above. Their study is important because they compared the results of academic tutoring, social skills training, and a combination of both on social status. They concluded that academic tutoring was sufficient to increase sociometric scores, while the group that received only social skills training did not experience improved peer acceptance (Coie & Krehbiel). Although this study delineates

meaningful outcomes, a few weaknesses should be recognized. Again, college students were used as tutors and the methods were not described in detail. It is difficult to determine whether the methods were reliably implemented the entire 6 months the study ran. On the other hand, Coie and Krehbiel reported that at follow-up procedures a year after the interventions were withdrawn, the groups that received academic tutoring maintained the same level of social status improvement. The inclusion of a follow-up phase is considered a valuable contribution to the practical significance of the outcomes.

A strength of Maheady and Sainato (1985) was that they also included a follow-up assessment point. They investigated the effects of peer tutoring on the social status and social interaction patterns of high- and low-status students. Three students from each category (high and low status) were targeted as subjects. The three high-status students tutored the three low-status students in math according to a withdrawal of treatment (ABAB) design. Results indicated meaningful improvements in math for the three low-status students and slight improvements in their social statuses. An important question, addressed by Maheady and Sainato was, what were the effects of tutoring unpopular students on the social status of popular students. Results indicated no appreciable effects upon the social status of the tutors. Additionally, partial maintenance of sociometric and behavioral changes was noted at a 4-week follow-up point (Maheady & Sainato). Besides implementing a follow-up data collection, this study has two additional strengths--the use of peers as tutors and the inclusion of students who vary on social status. The last study reviewed involved 4 students with mild mental retardation and 4 typical second- and third-grade students. Classwide peer tutoring was implemented as the intervention, which

means that both sets of students served as tutors and tutees (Mortweet, 1997). This is the only study reviewed that allowed the lower-status students to lead the instruction as tutors. Mortweet conducted pre- and postintervention sociometric measures to determine peer acceptance. Additional variables were investigated such as spelling performance, academic engagement, social interaction, and social skills. Regarding social acceptance scores, the students were not assessed after a follow-up phase nor were they compared to a control group. However, their peer acceptance scores were compared to the typical peers' scores. Results indicated that all 8 students experienced improved social statuses and positive outcomes were reported according to the other variables. Three significant strengths of this study should be recognized. First, the use of peers as tutors is considered important. Secondly the investigation of the high-status peers' social acceptance appears worthwhile. Finally, Mortweet (1997) socially validated CWPT by inviting the teacher's comments and opinion regarding the procedures using a teacher satisfaction questionnaire.

### Summary and Conclusions

The above critical review has revealed significant strengths and weaknesses in the literature. First of all, some shortcomings that need to be avoided include unclear or interfered treatment procedures and using college students as tutors. College students do not readily exist in a typical elementary student's social environment and, therefore, may contrive unrealistic effects. A more practical alternative is to use classmates who are easily accessible as tutors (Maheady & Sainato, 1985). Notable strengths of the reviewed studies involve (a) using peers as tutors, (b) implementing a follow-up phase, (c) involving

students of varying social statuses, (d) utilizing a control group, and (e) soliciting the teacher's comments through a questionnaire. As illustrated by this review, further research should include these critical components

### Purpose and Objectives

Researchers have documented the effectiveness of CWPT procedures for increasing academic performance in the classroom. They have also suggested that students (e.g., educable mentally retarded, low-status, and learning disabled) experience enhanced prosocial behaviors as a result of the program. Although the academic effects of CWPT for a wide range of students and academic and social effects of a variety of academic tutoring programs for the above-mentioned populations have been examined, no study was found that investigated the direct effects of CWPT on social status of regular education students who are not necessarily rejected or withdrawn or fall within any special education classification. It is plausible that such an intervention may serve as a meaningful prevention strategy for those students who are not yet experiencing social difficulties. Moreover, those regular education students who are experiencing social conflict, which has not yet warranted intensive therapy, may benefit from such a program as well as develop resilience to further difficulties. Without formal analysis of the effects of CWPT on the social status of regular education students (who are also assumed to have diverse levels of social statuses), educators cannot be certain of the social benefits of such a program and its implication for public schools. In order to ascertain the possibility of

CWPT as an intervention or prevention for academic and social problems, its effect on students' social status must be thoroughly evaluated.

The current study systematically investigated the relationship between CWPT and regular education students' social status. Furthermore, the purpose of this study was to further evaluate the effects of CWPT on academic performance found in numerous journal articles and to investigate the durable and socially significant improvements in social status as documented in Maheady and Sainato (1985) and Coie and Krehbiel (1984).

In order to evaluate the relationship between CWPT and students' social status, several questions or objectives were addressed. The following are objectives specific to the current study: (a) to further evaluate the relationship between CWPT and spelling performance, (b) to investigate CWPT and its effect on students' social status as a group and individually, (c) to evaluate the resiliency and maintenance of achieved improvements in social status, and (d) to determine the social validity of the treatment package by obtaining the teacher's opinion and comments regarding the intervention.

It was hypothesized that the students receiving the tutoring intervention would experience a statistically significant change in mean peer acceptance scores (social status) as compared to the control students. Additionally, it was hypothesized that not only students who receive low-status ratings at pretest, but also students who receive average ratings would demonstrate an increase in status measured by individual mean differences from pretest to posttest. It should also be noted that the researcher expected to find no adverse side effects (e.g., decrease in social status) for students who at pretest were

identified as high-status individuals. And lastly, it was hypothesized that follow-up testing would reveal a maintenance effect of the increased social statuses.

## METHOD

### Subjects and Setting

Two mixed first- and second-grade classroom teachers from Edith Bowen School, the Utah State University laboratory school, volunteered their classes for participation in this study. Experimental and control classrooms were determined by a toss of a coin. Each class contained 24 students. Informed consent was received from parents of 18 students from the control classroom, and 15 students from the experimental classroom were allowed to participate. Of the 18 control class participants, 3 were considered of minority status. Two of the 15 students from the experimental class were considered minorities. Each class contained 2 students requiring special education services.

The two classrooms were located next to each other with an adjoining door. In both classrooms the students' desks were arranged in small groups or pods clustering three to four desks. Prior to this study, the teachers consulted about and planned instruction conjointly. Both classrooms participated in "identical" spelling lessons and activities. All students regardless of their grade or ability level were exposed to the same academic material.

### Experimental Design and Conditions

Academic and social variables were investigated according to two separate experimental designs. The academic variable consisted of a single-subject design across

two conditions (ABA). For the social variable a nonequivalent control-group design (pre-/posttest; Gall, Borg, & Gall, 1996) was employed.

#### Teacher-Led Instruction (Condition A)

During the initial baseline condition (4 weeks), the classroom teacher-led spelling instruction two to three times a week for approximately 45 minutes each time. Instruction was executed the same way that it had been prior to the involvement of the researcher and research assistants. Teacher-led spelling instruction consisted of teacher-specified lessons using word lists developed by the teachers, which introduced a new word chunk each week. For example, “oa” and “ee” are word chunks. Each of the words on the 10-word lists included the chunk of the week. Both teachers led spelling instruction in a similar manner. Lessons involved the teacher presenting a word from the weekly list and the students writing the word around a race track handout or using it in a sentence.

Occasionally, the entire class played a guessing game, in which the teacher would present a clue and the students guessed the word. Most activities took place while sitting as a group on a rug and couches or at the students’ desks. The correct word and spelling were provided to the entire class following a short interval in which the students were to complete the required task. Minimal peer interaction occurred during these activities.

During this condition, the teachers administered weekly spelling tests. Spelling test scores from the 4 weeks prior to intervention were collected and recorded as baseline academic data. These tests typically took place on Fridays, although they did not consistently occur at the same time of the day.



### Classwide Peer Tutoring (Condition B)

The second condition involved a 6-week intervention phase, in which CWPT procedures (Greenwood et al., 1997) for spelling were implemented in the experimental classroom only. Every student in the experimental class participated in the CWPT procedures; however, only the 15 for whom consent was given participated in the data-collection procedures. Tutoring procedures were implemented between 9:00 am and 9:30 am Monday through Thursday. Spelling posttests and pretests of the following week's list were administered on Fridays. The students, the teacher, and two program consultants (the primary investigator or trained research assistants) were present in the classroom during tutoring sessions. Typically the research assistants led the tutoring sessions without help from the teacher. This period was divided into two 10-min tutoring sessions and one 10-min recording period. Students assumed both the tutor and tutee role during each session, switching after the first 10-min tutoring period. All students were tutored on the same list.

The control classroom continued with teacher-led spelling instruction during the 6-week intervention phase. However, during the times that tutoring sessions were implemented in the experimental classroom, two program consultants helped out and/or observed in the control classroom.

### Procedures

#### Training

The students were taught the standard tutoring procedures during a 3-day training

phase between baseline measures and the intervention phase. Together We Can! Classwide Peer Tutoring to Improve Basic Academic Skills (Greenwood et al., 1997) outlines a standardized training procedure, which was closely followed. Three 20-min training sessions were conducted to explain the rationale, provide an overview, and discuss the method of reinforcement for proper tutoring techniques and spelling accuracy. Training involved brief descriptions of behaviors to be trained, modeling of behaviors by the teacher and selected students, and rehearsals of tutoring techniques. The primary investigator and research consultants presented the training and demonstrations to the class, practiced with students, and corrected any problems before entering the intervention phase. All procedures followed the guidelines specified by Greenwood et al. (1997).

#### Specific Tutoring Behaviors

The following behaviors and their sequence are suggested by Kohler and Greenwood (1990) and are consistent with other descriptions of procedures (Greenwood et al., 1997).

1. Tutor orally presents each spelling word, beginning with the first word of the list.
2. Tutee orally spells the word, while writing the letters of the word on paper.
3. Tutor provides social feedback (if necessary, one correction) regarding the accuracy of each response: (a) Positive feedback consists of "You are correct." (b) Corrective feedback consists of "That word is wrong. The correct spelling for that word is 'R U N.'"

4. Tutor states that 2 points are awarded for a correctly spelled word and records the points.

5. Tutor instructs the tutee to rewrite words spelled incorrectly on the initial attempt three more times.

6. Tutee repeats the incorrectly spelled word three times, orally while the word is being written.

7. Tutor states that 1 point is awarded for words repeated correctly three times.

8. Tutor states that 0 points are awarded if any one of the three repetitions was incorrect.

Tutor-tutee behaviors were repeated for each spelling word. To maximize the 10-min period, students did not stop after the list was completed once; rather, they began the list again. During these additional practices, points continued to accrue for themselves and their team.

Tutor-tutee pairs were semirandomly selected. Prior to the CWPT phase, weekly pairs were determined. Students who participated in the data collection procedures were paired with other students who were allowed to participate in the data collection procedures, and the students that did not participate were paired with other students who did not take part in the data collection procedures. Within these two subgroups, pairs were randomly selected. In the case that a pair was chosen to work together more than once during the 6-week intervention phase, the primary investigator arranged the students with new partners. There was no adjustment for peer status or academic achievement. Each week two teams were identified with team names. Tutor-tutee pairs were assigned to

one of the two teams by the principal investigator in a random fashion.

During tutoring sessions the program consultants, and occasionally the teacher, randomly rewarded students. Students who were using proper tutoring techniques received praise and extra points. Tutors and tutees also received extra points for staying on task, sitting properly in their seats, praising their partner, and for trying their best. The extra points from the consultants and teacher helped to ensure that consistent and proper tutoring procedures were being followed.

Points earned for each participant during the tutoring sessions were tallied, recorded, and included in their team's score. Posters with the weekly individual and team scores were displayed in the classroom and were visible throughout the day. All students received praise for participation, effort, and improvement. The team earning the most points received verbal praise and an applause by their classmates. The team with fewer points also received verbal praise for their improvements and efforts, as well as an applause by their classmates. No other rewards were delivered.

#### Fidelity of the Independent Variable

The fidelity of the implementation of CWPT procedures was verified using a CWPT fidelity checklist (Mortweet, 1997; see the Appendix). The checklist was completed by the research assistants daily following each tutoring session. The mean fidelity of implementation was 97% (range, 93-100%). In addition, an observation sheet was completed on the control classroom by one of the research consultants. The observations were conducted only during the time allotted for spelling instruction, and

they occurred twice a week unannounced. The purpose of the observation sheet was to prevent the CWPT procedures from drifting into the control classroom because the teachers had extended contact.

Analysis of the observation sheets shows that CWPT procedures did not occur in the control classroom. A brief description of traditional, teacher-directed instruction in the control classroom follows. The students' desks were arranged in fours, although much of the spelling instruction took place in a large group on a rug. Two separate activities constituted the majority of the spelling instruction. First, while the children sat on a rug, the teacher directed a spelling game. During this activity, each student was allowed to respond approximately every 15 min and their answers were praised or corrected. The second activity involved each student working independently on seatwork, which led to more frequent responding. The specific assignments included writing stories using the spelling words, writing the spelling words around a race track, or taking practice spelling tests. The control students learned the same list of words as the CWPT students and they were exposed to the words an average of 27 min a day, which is comparable to the 20 min of exposure the CWPT students received. Never did the students in the control class take a tutor role during spelling instruction nor did they work in pairs. Based on this description, it is clear that CWPT procedures did not occur in the control classroom.

## Dependent Measures

### Weekly Spelling Test Performance

The first research question addressed CWPT as an effective intervention to improve academic performance. Therefore, spelling test performance served as a dependent variable. Within the experimental classroom, each child's spelling tests were recorded during three phases, which followed a withdrawal of treatment (ABA) design. The first phase consisted of baseline conditions, in which teacher-led spelling instruction (Condition A) was applied. Four weeks of spelling test scores were recorded before CWPT procedures were implemented. During the 6-week CWPT intervention (Condition B), spelling tests were administered and recorded. Following Condition B, CWPT procedures were withdrawn and 4 weeks of spelling test scores were recorded as a third phase that was considered a return to baseline condition (Condition A). Scores were recorded as number correct out of 10 possible.

### Peer Acceptance

As the primary purpose of this study and to answer the research objectives concerning social outcomes, peer acceptance was investigated using sociometric rating procedures. Sociometric rating procedures were conducted with the 15 students from the experimental class and the 18 students from the control class, for whom informed consent was obtained. The sociometric procedures were conducted three times: (a) the few days before the training of the CWPT procedures, (b) the few days immediately following the 6-week CWPT phase, and (c) a few days 4 weeks after the termination of the CWPT

phase as a follow-up. Each student was individually shown a roster of the participating students and asked privately to rate “how much they like to play” with each peer and “how much they like to work” with each peer. Beside each name was a 1-5 point Likert scale, where 1 indicates “hardly at all” and 5 indicates “very much” (see the Appendix).

Specific instructions were as follows:

We are doing some research and are interested in finding out how much the students in your class like to work and play with each other. I will be asking you how much you like to work and play with some of your classmates. Your teacher and the other students in the class will not know how you answer. This is not a big deal and only I need to know this stuff because of my research. It is only important to me how much you like to work and play with your classmates. There are no right or wrong answers. Just do your best. Do you have any questions? For each student on this list, circle one of the numbers to show how much you like to WORK/PLAY with them.

These scores were transformed into mean peer acceptance scores for each participant (Terry & Coie, 1991). Group mean scores were calculated for each classroom.

### Analysis

Because sociometric measures were administered pre- and postintervention and again at follow-up to both experimental and control groups which were not randomly assigned,  $t$  tests of statistical significance were conducted. Data were analyzed by determining and comparing sociometric mean scores of the large groups, and through visual inspection of graphically represented data. For spelling test data, percent correct was used to calculate group means according to weekly test scores of the experimental and control classes. The data were analyzed visually and are graphically represented.

## RESULTS

### Academic Data

#### Weekly Spelling Test Performance

To answer the question of how performance on spelling tests during CWPT compared to performance during teacher-led instruction, the following results were obtained. During the first condition (teacher-led instruction), class mean scores were 49, 72, 56, and 51% for weeks 1 through 4. For the intervention phase, mean scores were higher. Weeks 5 through 11 indicate elevated percentages of 93, 98, 93, 86, 95, and 95%. During the return to teacher-led instruction, scores remained above those indicated before the intervention--91, 92, 93, and 72%. The average percent correct on spelling posttests during teacher-led and CWPT conditions for the CWPT group are shown in Figure 1.

As comparison data, spelling test performance was also recorded for the control classroom. The following results were obtained. During the first phase, which was the typical teacher-led instruction, the classroom mean percentages were 79, 77, 66, and 82. The second phase for this classroom involved teacher-led instruction with research assistants helping and/or observing. The classroom mean scores were 89, 88, 90, 83, 74, and 81%. Classroom mean percentages for the last phase, which consisted of teacher-led instruction without the help of research assistants, included 85, 74, 85, and 69. These control group spelling test data are represented in Figure 2.



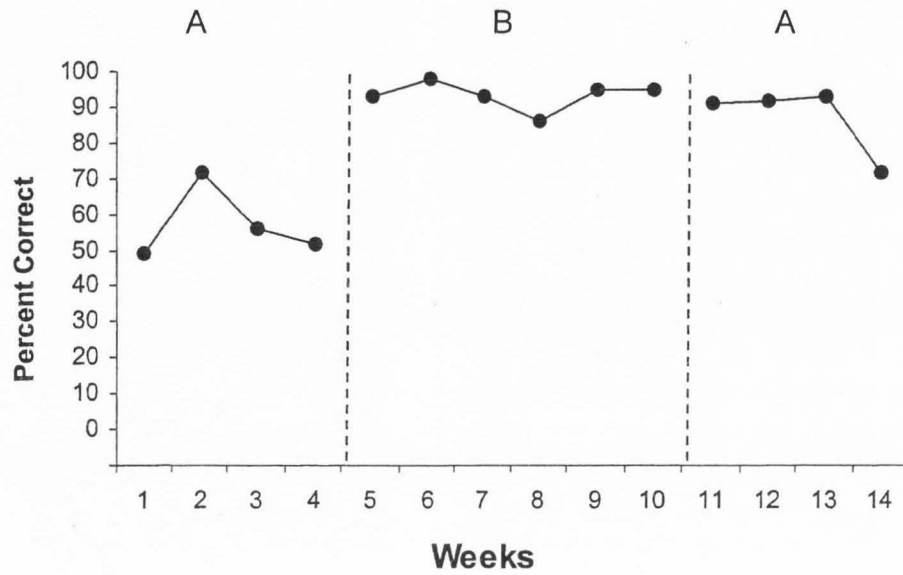


Figure 1. CWPT group's spelling test scores over three phases.

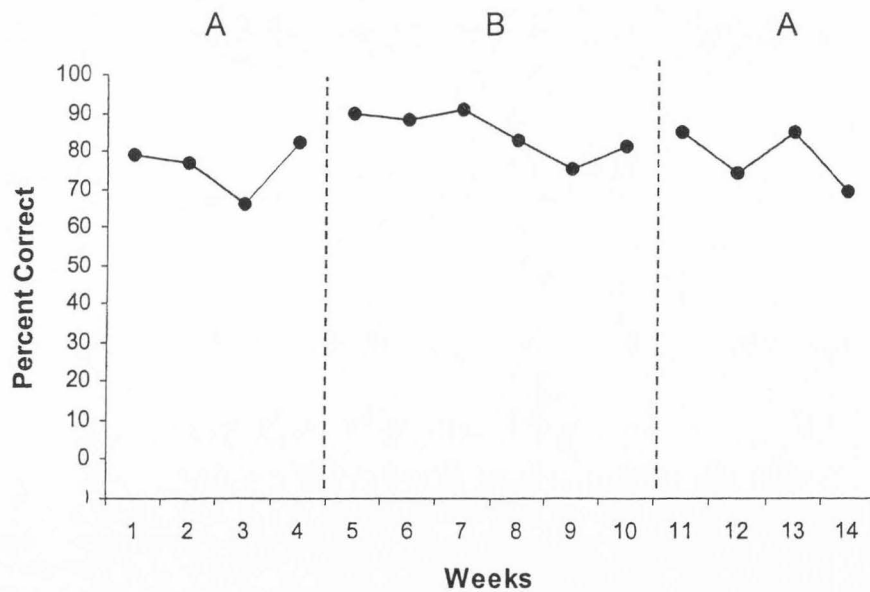


Figure 2. Control group's spelling test scores over three phases.

## Sociometric Data

### Work Sociometrics

Another question addressed the effect of CWPT on students' social statuses. Classwide sociometric changes were investigated as well as individual sociometric change. According to the work sociometric measure at the pre-intervention data collection, the means were 3.05 for the CWPT group and 2.81 for the control, which is an effect size of .41 ( $t = 1.26$ ,  $p = .21$ ). Immediately following intervention, the CWPT group mean increased to 3.18 and the control mean decreased to 2.66, with an effect size of 1.03 ( $t = 2.74$ ,  $p = .01$ ). At follow-up the CWPT mean maintained at 3.22 and the control group mean dropped to 2.51, with an effect size of 1.13 ( $t = 3.86$ ,  $p = .0005$ ); see Figure 3. Figures 4 (CWPT) and 5 (Control) represent work sociometric change scores for individual students. Seventy-three percent of CWPT participants improved their work sociometric status from pre-intervention to follow-up, while 28% of the control classroom improved in sociometric status from pre-intervention to follow-up.

### Play Sociometrics

Based on the play sociometric measure at the pre-intervention data collection, the means were 3.2 and 2.8 for the CWPT group and the control group, respectively, indicating an effect size of 1.0 ( $t = 2.75$ ,  $p = .01$ ). At the data collection following the intervention condition, the means were 3.1 for the CWPT group and 2.7 for the control group, with an effect size of .78 ( $t = 2.36$ ,  $p = .02$ ). The follow-up data indicate a large difference with an effect size of 1.96 ( $t = 4.72$ ,  $p = .00005$ ). The CWPT mean was 3.5

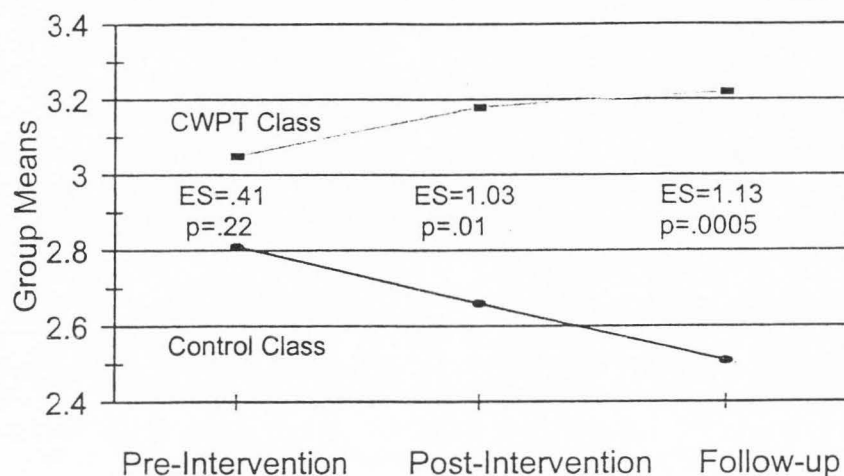


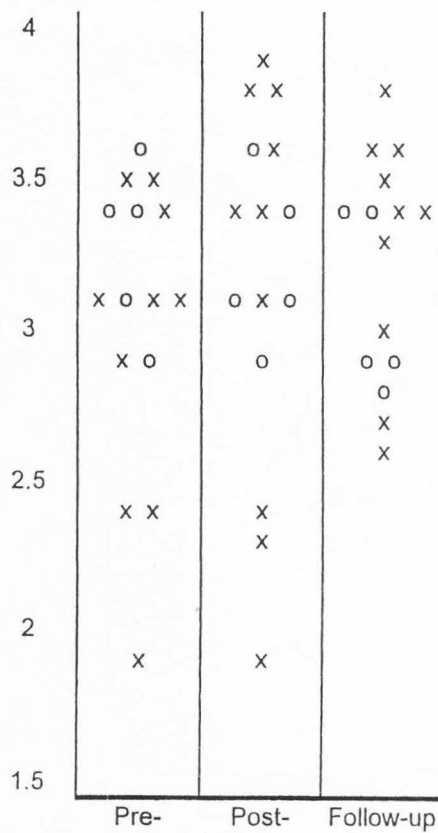
Figure 3. Work sociometric group change scores.

and the control group mean was 2.6. These data are displayed graphically in Figure 6.

Figures 7 (CWPT) and 8 (control) represent play sociometric change scores for individual students. Seventy-three percent of CWPT participants improved their play sociometric status from pre-intervention to follow-up, while 28% of the control classroom improved in sociometric status from pre-intervention to follow-up.

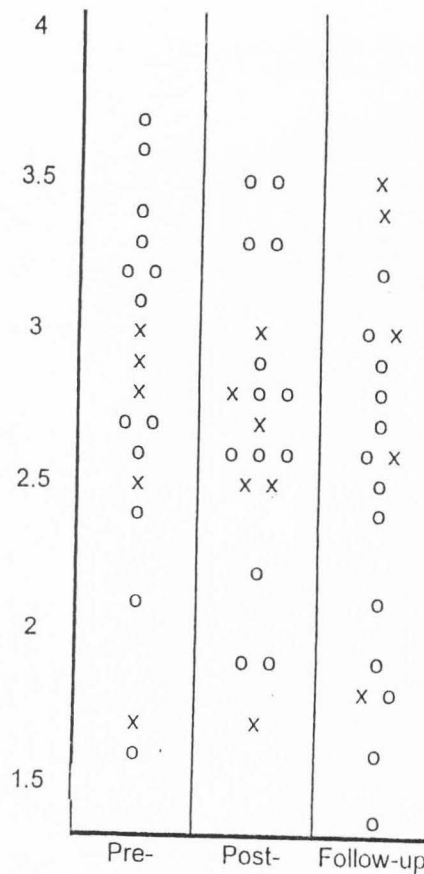
#### High- and Low-Status Students

Another research question addressed the influence of CWPT on students who are rated as high, average, or low status. Therefore, further analysis was conducted for these subgroups according to the work sociometric measure. Subgroup analysis was not reported based on the play sociometric measure due to random and inconsistent patterns.



x-----x = Improvement  
o-----o = No Improvement

**Figure 4.** Work sociometric individual change scores—CWPT group.



**Figure 5.** Work sociometric individual change scores—control group.

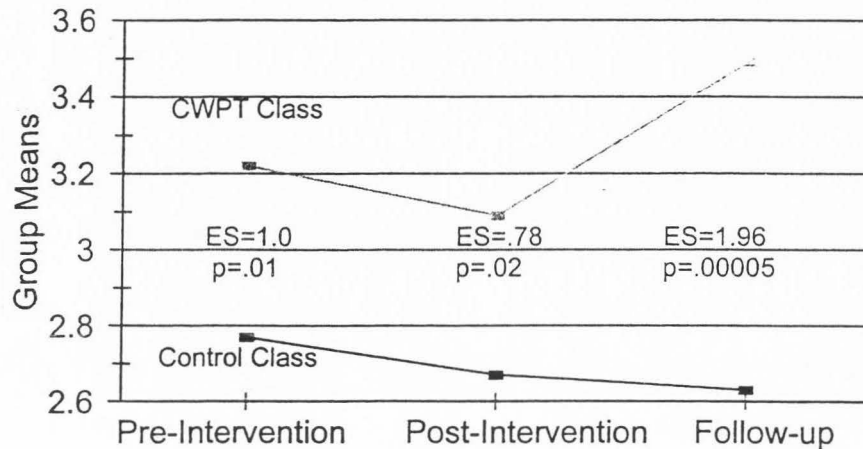
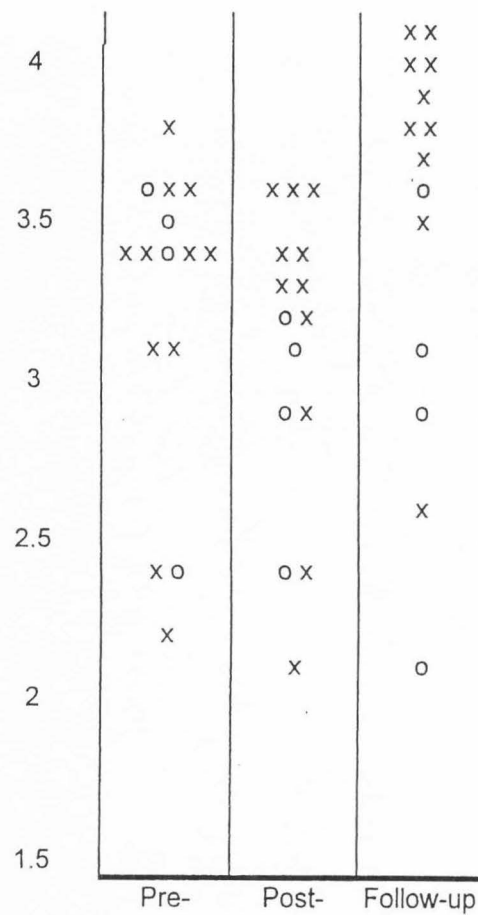


Figure 6. Play sociometric group change scores.

Student status was identified as high, average, or low at the pre-intervention sociometric data collection. Any student receiving an average sociometric rating of 3.5 or higher was identified as high status. Any student receiving an average sociometric rating of 2.5 or less was identified as low status. Students receiving scores between 2.5 and 3.5 were identified as average.

Figures 9 and 10 show the sociometric patterns of the high-status students of the CWPT and control classes. Scores improved for two of the three CWPT students, while none of the control high status students received improved sociometric scores. Figures 11 and 12 display the sociometric patterns for lower-status students from both classes. All three CWPT low-status students received improved sociometric scores at the third data



x-----x = Improvement  
o-----o = No Improvement

Figure 7. Play sociometric individual change scores—CWPT group, high and low status students.

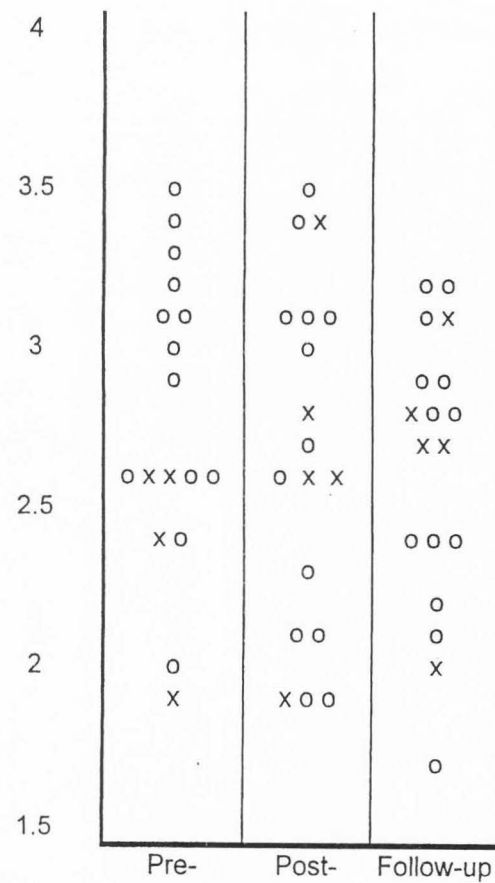
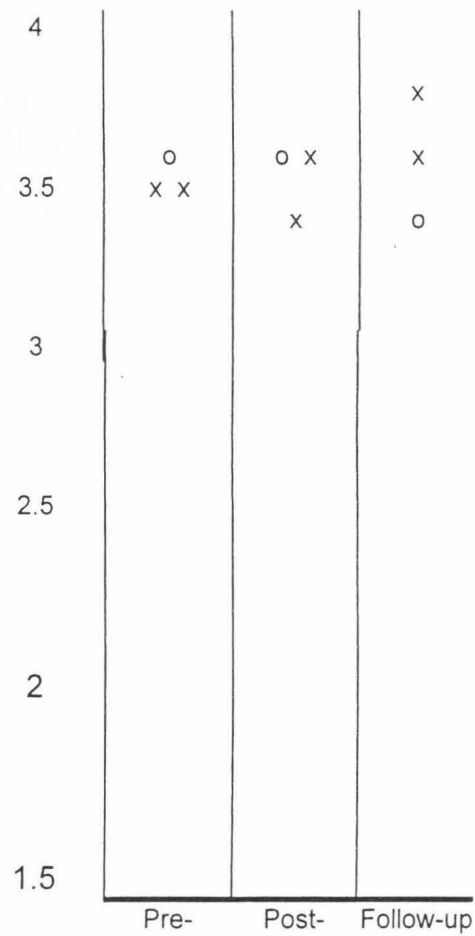


Figure 8. Play sociometric individual change scores—control group.



x-----x = Improvement  
o-----o = No Improvement

Figure 9. Work sociometric individual change scores of students identified as high status-CWPT group.

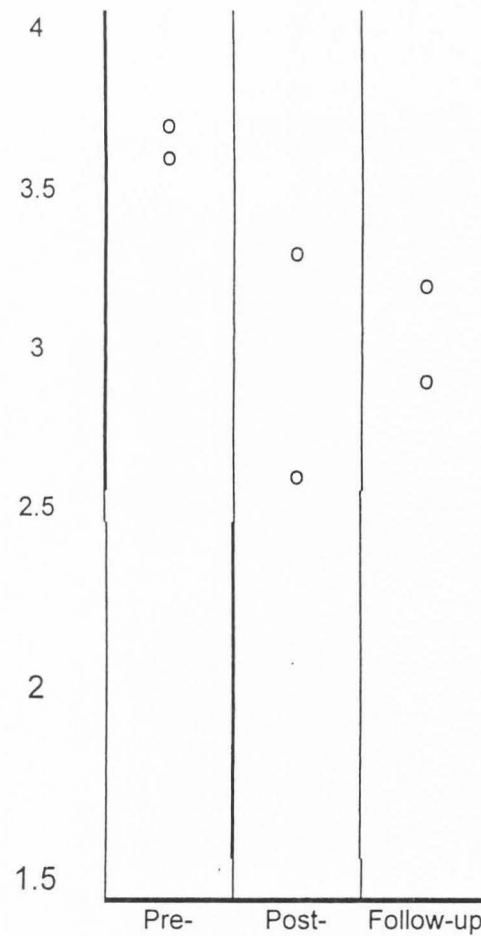


Figure 10. Work sociometric individual change scores of students identified as high status-control group.

collection and the improvement was great. Two of the five lower-status control students earned improved sociometric scores, but their improvements were moderate. The sociometric patterns of the students identified as average did not follow any distinct pattern. In both groups, some improved, while some did not. In general, however, the CWPT average students improved more than the control average students. The patterns for both groups were assumed to be random and, therefore, a graph was not used to display their configurations.

### Teacher Satisfaction

To answer the final research question of the social validity of classwide peer tutoring, a classwide peer tutoring teacher satisfaction questionnaire, adapted from Mortweet (1997; see the Appendix), was completed by the teacher of the experimental class. She indicated agreement (e.g., “agree”) with all of the 17 statements, except one. For the statement “Inappropriate behaviors were low during CWPT” she indicated “Not Sure.” She reported that improved spelling scores were noticed as a result of CWPT. Additionally, she stated that the students’ social behavior was excellent during CWPT sessions, but average at other times of the day. Lastly, the teacher noticed that the students enjoyed seeing their points increase and that the CWPT intervention was a great change from the regular spelling instruction.



## DISCUSSION

The results of this study indicate that CWPT is an effective, socially valid strategy for improving academic and social outcomes for first- and second-grade, general education students. Specifically, CWPT improved academic achievement by increasing the average percent correct scores on spelling tests. In practical terms, the tutoring increased the class average spelling grade from a C to an A. Although a purely functional relationship is difficult to determine because the spelling scores remained moderately high after the withdrawal of CWPT, a drastic and immediate increase was noticed following the onset of CWPT. Additionally, the control classroom did not follow such a pattern. It is believed that although the teacher and teaching assistant were instructed to return to their typical spelling instruction, a few components of the CWPT may have been unintentionally continued within the CWPT group after the tutoring was withdrawn. Specifically, students were observed to engage in repeated and fast practice on their own during the CWPT condition and afterward. Occasionally, during the clean-up and point-recording time of the daily tutoring sessions, students continued to write and say their spelling words when they were not required to do so. Additionally, some students were observed to spell the words aloud as they wrote them during their traditional spelling instruction. The teaching assistant worked with a few struggling students individually and the students engaged in similar tutee behaviors of saying the word as they wrote it. Unfortunately, the continuation of CWPT components was not formally documented. However, the possibility of the students and teachers extending the tutoring components beyond the

CWPT condition without making special efforts to do so suggests a question to be addressed by future research.

The results of this study indicate social benefits for the classroom that participated in CWPT. These include improved work sociometric scores, improved play sociometric scores, and consistent ascending patterns for high- and low-status students of the CWPT classroom compared to random patterns for the control classroom. Social benefits were defined by improved sociometric scores that represent peer acceptance. Essentially, the higher the sociometric scores, the more the student is accepted or liked by his or her peers. In general, the experimental class, as a whole, appeared to get along better and, based on the sociometric ratings, they like each other better after working together in the tutoring program. In fact, the scores continued to increase after the tutoring was withdrawn.

Statistically significant  $t$ -scores were identified between the CWPT and control groups at the conclusion of the CWPT condition and at follow-up, according to the work sociometric. Based on the play measure, statistical significance was found at the follow-up data collection, but not at the conclusion of CWPT. It is believed that the work measure is a more valid measure for this particular study. Previous research has documented the similarities in work and play sociometrics, but have clearly stated that they represent two separate constructs (Terry & Coie, 1991). In reality, children may prefer to work on a project with one person, but not choose to play with that individual at recess. The differences in the work and play measures of the current study clearly support these findings. Because the independent variable of the current study explicitly involved a

work activity and not a play activity, it is not surprising that the consistent and predictable sociometric change occurred in the work measure. Although the movement of scores for the CWPT group, according to the play measure, was essentially positive, the reliability of that change cannot be stated with confidence. If the tutoring directly influenced the play measure, a pattern similar to the work measure would have been expected.

The improvement of high-, average-, and low-status students reveal differences in the patterns of change. For example, the lower-status students experienced substantial improvements, while the average- and high-status students experienced moderate positive change. Interestingly, the three lower-status students in the CWPT group did not experience improved peer acceptance until the follow-up data collection, whereas the average- and high-status students experienced most of their improvements at the second data collection. Although no data are available to support this phenomenon, a few possible explanations are provided. For instance, the lower-status children were also students who were below average academic performers. The tutoring procedures improved their spelling scores immediately, but their confidence might not have been affected until after several weeks of experiencing success. It is also possible that this extra confidence and/or their spelling achievements were not noticed by their classmates until later in the program, causing a delayed effect.

Another possible explanation involves tutor/tutee behaviors. Through incidental observation, specific tutor/tutee behaviors appeared to repel other students. For most students, their tutoring behaviors were appropriate and off-task behaviors were minimal. Unfortunately, a small percentage of students were not able to engage in the tutoring

behaviors as well as others, though efforts were made to shape proper tutoring behaviors. For example, some of the students had little experience sitting appropriately in their chairs while they worked, some students were slower giving their tutee the next word, and some students tended to argue with their tutor over points. The students that had difficulty behaving appropriately during tutoring tended to have the decreases in social status, even if they were high academic performers. In the case of the lower-achieving students, it appears to be different. These students were not necessarily off-task, but the procedure of saying the word for their tutee to spell, checking it, and awarding points was, not surprisingly, more labored. It is possible then, that the students who worked with them did not necessarily dislike working with them, but maybe liked working with them better when they were not forced to do so.

Additional evidence suggests unexpected social outcomes beyond those that were documented in this study. Before the study began, a few students were identified as lower academic achievers. One student, in particular, was unable to name his letters. The classroom teacher was skeptical of his success in the program. After 5 weeks in the tutoring program, the teacher reported that this student had “blossomed.” Even more positive reports occurred during the follow-up phase. His spelling scores were consistently higher than his baseline scores, but the “blossoming” was in reference to his social behavior. She stated that he seemed to talk to other students more often and the other students began including him in other classroom activities, whereas before, the students hardly acknowledged his presence. Additionally, social improvements were noted as he rated his peers on the sociometric measures. During the first data collection,

to the question “how much do you like to work/play with your classmates?” he rated all the participants with a 1 or 2, which represent “hardly at all” and “just a little.” He also mentioned to the researcher that he did not like anyone because they were mean to him. At the second data collection his ratings were more varied. He gave some students 3s and 4s, which represent “don’t really care” and “sometimes,” respectively. The most significant change occurred at the follow-up data collection when he rated all the participants with 4s and 5s. He appeared excited about rating and happy to be able to report on his new friends. Unfortunately, the intent of this study was not to identify improvements of individuals and this phenomenon was not systematically examined. However, it is remarkable that meaningful changes occurred beyond the limited scope of the current study.

Social validity was examined according to a teacher satisfaction questionnaire. This was important to know if the teacher viewed the tutoring program as worthwhile. If, for example, the time and labor necessary to implement the procedures surpassed the apparent benefits, the program would be considered not socially valid. Fortunately, the results of the teacher satisfaction questionnaire indicated a positive review, which supports the social validation of CWPT.

Classwide peer tutoring has been documented, on several occasions, to be a socially valid and effective academic intervention. The current study primarily investigated the social outcomes of CWPT as they affect a general education class. The current study extended previous research by: (a) investigating the social benefits of CWPT on an entire class versus a few special education students; (b) including sociometric data on all status

levels versus only the lower status students; (c) using a control group, who were instructed using conventional teacher strategies, to verify the social benefits of CWPT; (d) including a follow-up phase; and (e) monitoring treatment fidelity and teacher satisfaction. Due to the inclusion of these components and the meaningful social outcome of the current study, CWPT can be considered an acceptable and suitable intervention for social challenges, as well as academic difficulties.

### Limitations and Future Directions

Despite the contributions of this study, several limitations are recognized. For example, the generalization of treatment components was not monitored during the follow-up phase. It is believed that several procedures were unintentionally implemented after the completion of the intervention phase. Although this phenomenon might be worthy of further research, for the purpose of the current study it weakens the evidence that CWPT was the only influence on academic performance. Treatment fidelity checks should have been extended to the CWPT classroom during the follow-up phase to systematically record these events. Additionally, more efforts should have been made to guarantee a true withdrawal of procedures. On the other hand, one might not intend for the procedures to cease after the program is withdrawn. In that case, a different question should have been asked to address the generalization of procedures. A generalization of tutoring components may allude to which components play a major role in the effectiveness of CWPT. Similarly, a generalization of procedures may indicate social

validity, in that the students and/or teacher recognize the benefits and carry them out with minimal cost.

Another limitation involved the earlier speculations of the delayed improvements for the lower-status students. The delayed effect has not been documented previously and is somewhat puzzling. In order to provide evidence or an explanation of this phenomenon, systematic behavioral observations should be employed. Systematic observations may have substantiated additional social validity as well. Although it is important to know that students' reports of peer acceptance improved, it is equally important to know if their actual social interactions increased or improved in quality. Careful replication of this study is suggested to verify the delayed effect for lower-status students. Additionally, systematic observation should address the reason for the delayed improvements.

### Summary and Conclusions

The purpose of this research was to investigate primarily the social outcomes of CWPT and to verify positive academic outcomes as reported by previous researchers. The academic and social questions examined in this study suggest that CWPT has positive and practical implications for diverse general education students belonging to a single class. For example, the improvements in academic achievement resulted in higher spelling grades and a spillover of functional procedures. Furthermore, the substantial increase in social status of the experimental group suggests that CWPT is a potentially successful social intervention as well. The improved peer acceptance scores illustrate meaningful

change for the students involved. Additionally, this study provides direction for further research. Further investigations of CWPT that explore unintentional generalization of procedures and delayed social outcomes may be valuable for developing effective instructional strategies for students in a variety of settings.



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## APPENDIX

## PLAY FORM

Name \_\_\_\_\_

Data Set # \_\_\_\_\_

DIRECTIONS: For each student on this list, circle one of the numbers to show how much you would like to PLAY with them.

	Hardly at all	Just a little	Don't care	Sort of	Very much
Melissa	1	2	3	4	5
Tom	1	2	3	4	5
Candy	1	2	3	4	5
Jennifer	1	2	3	4	5
Emily	1	2	3	4	5
Heidi	1	2	3	4	5
Tony	1	2	3	4	5
George	1	2	3	4	5
Andria	1	2	3	4	5
Joel	1	2	3	4	5
Kami	1	2	3	4	5
Erin	1	2	3	4	5
Paul	1	2	3	4	5
Jason	1	2	3	4	5
Ally	1	2	3	4	5

## WORK FORM

Name \_\_\_\_\_

Data Set # \_\_\_\_\_

DIRECTIONS: For each student on this list, circle one of the numbers to show how much you would like to WORK with them.

	Hardly at all	Just a little	Don't care	Sort of	Very much
Melissa	1	2	3	4	5
Tom	1	2	3	4	5
Candy	1	2	3	4	5
Jennifer	1	2	3	4	5
Emily	1	2	3	4	5
Heidi	1	2	3	4	5
Tony	1	2	3	4	5
George	1	2	3	4	5
Andria	1	2	3	4	5
Joel	1	2	3	4	5
Kami	1	2	3	4	5
Erin	1	2	3	4	5
Paul	1	2	3	4	5
Jason	1	2	3	4	5
Ally	1	2	3	4	5



## CWPT FIDELITY CHECKLIST

Observer \_\_\_\_\_

Date \_\_\_\_\_

## Materials in Evidence/Posted

	<u>Yes</u>	<u>No</u>
1. Move/Stay Chart for week.	_____	_____
2. Team Point charts for daily points.	_____	_____
3. All tutees have assignments for tutoring.	_____	_____
4. All tutors have score sheets.	_____	_____
5. All tutor pairs have help signs.	_____	_____
	Subtotal _____	

## Teacher Procedures

	<u>Yes</u>	<u>No</u>
1. Teacher instructs students to "move" to partners.	_____	_____
2. Teacher sets timer for 10 minutes.	_____	_____
3. Teacher moves among the students during tutoring.	_____	_____
4. Teacher awards bonus points for tutoring correctly.	_____	_____
5. Teacher praises students who are following tutoring procedures correctly.	_____	_____
6. Teacher helps pairs when needed, avoiding delays.	_____	_____
7. Teacher resets timer promptly to begin each tutoring session.	_____	_____
8. Teacher calls for each student's points and posts them on the Team Point Chart.	_____	_____
9. Teacher praises individuals for points earned.	_____	_____

	<u>Yes</u>	<u>No</u>
10. Teacher sums team point scores and reports winner for session.	___	___
11. Teacher acknowledges winning team.	___	___
12. Teacher encourages losing team.	___	___
13. Teacher instructs students to put away materials.	___	___
	Subtotal	___

### Student Procedures

For this section, sample 2 tutoring pairs for 2 minutes each.

	<u>Pair 1 Yes/No</u>	<u>Pair 2 Yes/No</u>
1. Students move quickly to tutoring positions.	___	___
2. Tutee says answer aloud while writing.	___	___
3. Tutor scores properly for correct answers.	___	___
4. The correction procedure is used correctly in the event of an error.	___	___
5. Tutor continues questioning after error corrections.	___	___
6. After going through entire list, tutor begins same list again.	___	___
7. Students use help sign when needed.	___	___
8. Inappropriate behavior is low during tutoring procedure.	___	___
	Subtotal	___

Score Summary	(Possible)
Subtotal for Materials _____	5
Subtotal for Teacher _____	13
Subtotal for Students _____	16
TOTAL _____	Divided by _____ = _____%

Classwide Peer Tutoring  
Teacher Satisfaction Questionnaire

We would like your opinion on the Classwide Peer Tutoring (CWPT) program that was implemented in your classroom. Your feedback is extremely valuable to us and other educators who may use CWPT. Please feel free to provide additional comments on specific questions or about the program in general.

SD= Strongly Disagree   D= Disagree   NS= Not Sure   A= Agree   SA= Strongly Agree

1. The procedures for training students for CWPT involved a reasonable amount of time and were effective.

SD                      D                      NS                      A                      SA

2. 20 minutes a day was necessary for improving my students' spelling skills.

SD                      D                      NS                      A                      SA

3. The CWPT procedures were helpful for students of all ability levels in my classroom.

SD                      D                      NS                      A                      SA

4. The time for CWPT was easy to plan into my regular daily schedule.

SD                      D                      NS                      A                      SA

5. My students seemed to enjoy learning with the CWPT procedures.

SD                      D                      NS                      A                      SA

6. Having the same partner for tutoring during the week was beneficial to most of my students.

SD                      D                      NS                      A                      SA

7. Transition to and from CWPT went smoothly.

SD                      D                      NS                      A                      SA

8. Receiving bonus points during CWPT helped my students stay on task.

SD                      D                      NS                      A                      SA

9. The materials used with the CWPT procedures were beneficial.

SD                      D                      NS                      A                      SA

10. Being on the teams helped maintain interest and enthusiasm in my students.

SD                      D                      NS                      A                      SA

11. The majority of students improved their spelling scores with CWPT.

SD                      D                      NS                      A                      SA

12. I plan to use the tutoring program again.

SD                      D                      NS                      A                      SA

13. The academic and social skills and benefits that students received in CWPT are valuable and important for continued success in school.

SD                      D                      NS                      A                      SA

14. Inappropriate behaviors were low during CWPT.

SD                      D                      NS                      A                      SA

15. My students improved their social skills (cooperation, turn-taking, and praise) because of the CWPT procedures.

SD                      D                      NS                      A                      SA

16. My students increased their acceptance of each other.

SD                      D                      NS                      A                      SA

17. My students increased their positive interactions with each other.

SD                      D                      NS                      A                      SA

18. I noticed the following changes in my students' academic behavior:

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19. I noticed the following changes in my students' social behavior:

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20. I noticed the following effects of the peer rating data collection procedures:

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